

OBJECT CONTROL SYSTEM AND OBJECT CONTROL METHOD

TECHNICAL FIELD

[0001] The present invention relates to technology for controlling an action of an object that is an actual object or a virtual object.

BACKGROUND ART

[0002] In order to construct a good relationship with other people, it is said that a “joint viewing experience” in which people see the same thing is effective instead of a “face-to-face relationship.” It is known that by seeing the same thing at the same place and empathizing with each other, the distance to the other people is shortened and affinity with the other people is increased.

SUMMARY

Technical Problems

[0003] The inventor has focused on possibility of utilizing a robot as a joint viewing player who experiences sympathy with a user. For example, it is expected that the user’s affinity with the robot is increased and motivation for playing a game is enhanced by the robot viewing the game play next to the user and being pleased or sad together with the user. Further, regarding not only the game but also a movie, a television program, or the like, it is expected that the user may enjoy content mere by viewing the content with the robot as compared to the case of viewing it alone.

[0004] The present invention has been made in view of these problems, and an object of the present invention to provide a technology that allows the user to obtain a joint viewing experience with the object such as a robot.

Solution to Problems

[0005] In order to solve the above problems, an aspect of the present invention is an object control system for controlling an object, the object control system including: a feeling deduction unit configured to deduce a user’s feeling; a user internal state storage unit configured to store an internal state of the user including the user’s feeling; an object internal state storage unit configured to store an internal state of the object including an object’s feeling; an internal state management unit configured to manage the internal state of the object and the internal state of the user on the basis of the deduced user’s feeling; an action management unit configured to determine an action of the object on the basis of the internal state of the object; and an output processing unit configured to cause the object to perform the action determined by the action management unit.

[0006] Another aspect of the present invention is an object control method. The method includes; a step of deducing a user’s feeling; a step of managing an internal state of the user including the user’s feeling; a step of managing an internal state of an object including an object’s feeling; a step of updating the internal state of the object and the internal state of the user on the basis of the deduced user’s feeling; a step of determining an action of the object on the basis of the internal state of the object; and a step of causing the object to perform the determined action.

[0007] In addition, it is also effective as an aspect of the present invention to convert any combination of the above-

described components and a representation of the present invention into any of a method, an apparatus, a system, a computer program, a recording medium in which the computer program is readably recorded, a data structure, etc.

BRIEF DESCRIPTION OF DRAWINGS

[0008] FIG. 1 illustrates a diagram of an example of appearance at an actual object.

[0009] FIG. 2 illustrates a diagram for explaining an outline of an object control system.

[0010] FIG. 3 illustrates a diagram of an input/output system of a robot.

[0011] FIG. 4 illustrates a diagram of a configuration of the object control system that controls an object.

[0012] FIG. 5 illustrates a diagram at an example of an appearance form of a head mounted display (HMD).

DESCRIPTION OF EMBODIMENTS

[0013] An object control system of an embodiment provides a mechanism for achieving a joint viewing experience with an actual object or a virtual object. The actual object may be a human-type pet-type robot, and is preferable to be able to output at least audio and to move an arm, a leg, a neck, etc., by having a motor at a joint portion. A user places a robot nearby and views contents together, while the robot communicates with the user by outputting a reaction to empathize with the user or outputting a reaction against the user conversely, on the basis of a deduced user’s feeling.

[0014] The virtual object, may be a character such as a person or a pet including a three-dimensional (3D) model, and exists in a virtual space generated by a computer. In the embodiment, in the virtual space constructed when the user wears an HMD, a mechanism is proposed in which the content is reproduced in front of the user, and when the user turns sideways, the user may see how the virtual character is viewing the content together with the user. Similarly to the robot, the virtual character also communicates with the user by outputting the reaction to empathize with the user or outputting the reaction against the user conversely.

[0015] FIG. 1 illustrates a diagram of an example of appearance of the actual object. This object is a human-type robot 20, and includes a speaker for outputting audio, a microphone for inputting audio of the outside world, and a drive mechanism that includes a motor for moving each joint or a link for connecting the motors, etc. The robot 20 preferably has an interactive function to talk with the user, and more preferably has an autonomous movement function.

[0016] FIG. 2 illustrates a diagram for explaining an outline of the object control system 1. FIG. 2 illustrates a situation in which the user sits on a sofa playing the game and the robot 20 sits on the same sofa viewing the user playing the game. Ideally, the robot 20 has such an advanced autonomous movement function as to be seated on the sofa by itself. If the robot 20 does not have such a function, the user carries the robot 20 on the sofa and causes the robot 20 to sit next to the user. The robot 20 may participate in the game as a virtual player and for example, may virtually operate the opponent team of a baseball game being played by the user.

[0017] An information processing apparatus 10 receives operation information being input to an input apparatus 12 by the user, and performs an application such as a game. Note that the information processing apparatus 10 may